

"3. *The strength of the tobacco.*—Smokers speak of strength of tobacco in two senses. Those accustomed to the fancy kinds of tobacco assert that the common shag or Virginian tobacco would make them ill, and also that certain tobaccos taste hot in the mouth. These two statements may probably refer to the two principal constituents of the tobacco—viz., the narcotine, which is so powerful a poison, and the empyreumatic oil, which would cause irritation of the mucous membrane of the mouth; and it is certain that, whilst the wholesale dealers in tobacco find many of the present fancy tobaccos in the same hogshhead produced from the same soil, there are also diversities in the constituents of the tobacco, grown under different climates, upon different soils, and prepared for the market in different manners. I believe that with smokers in general the idea of strength is much more the effect upon the mouth than upon the general system. In the experiments referred to, the strong Bristol bird's eye had no more effect upon the pulse than the so called milder forms. It is probable that smoking is very much a gratification rather of the palate than of the sensorium.

"4. *Habits and temperament.*—Both Mr. D—— and Dr. H—— were well inured smokers; but, as we have seen, the effect upon them was well marked. Dr. H—— is beyond comparison more sensitive in temperament than Mr. D——, and yet the effect of tobacco upon him was much less. Hence, in reference to this action upon the pulse, neither of these conditions can be accepted as grounds for variation in the effect.

"I have referred in this paper to the action upon the pulse only, and not to the supposed sedative action upon the system generally, both because such an action is quite new to us, and because it is the only one of the two which can be well defined; but I do not for a moment wish to be understood to mean that this general action does not exist. It is, however, now impossible to look upon a dreamy state, a semi-narcotism, as the essential one of tobacco smoking; for when the pulse is excited in the manner now shown, the action is one of stimulation as perfect to appearance as if induced by food, and as fitted temporarily, and under proper conditions of food, to excite the activity of the brain or other organs. If the experience of literary men has shown that in some the necessary activity of brain is obtained only after the exhibition of strong wines and spirits, it may now be proved that in certain persons tobacco-smoking produces a similar result, and by quickening the pulse, and in a certain degree filling it also, it may excite all vital actions. In such a state of atonicity of system, when tobacco produces the effect upon the heart already described, it is easy to believe it a remediable agent of great value. But if there be not a state of atonicity, but on the other hand a tendency to fulness of system, what so certain as that this important action upon the heart must lead to disturbed sleep and conditions tending to apoplexy?"

5. *On Cinchonine as a Substitute for Quinine.*—Dr. W. F. DANIELL, of Kingston, Jamaica, writes to Professor Bentley as follows:—

"In the *Pharmaceutical Journal* for February last, I observe an interesting paper by Mr. Joseph Ince, recommending the salts of cinchonine in lieu of those of quinine; now so far as my experience extends with reference to the employment of cinchonine in the treatment of febrile and other miasmatic diseases of Western Africa, it has proved a decided failure, owing to the headache which has uniformly attended its administration. When I was in medical charge of the troops in Sierra Leone, a large quantity of cinchonine was furnished to the hospital with the view of testing its remedial properties, and also of ascertaining whether it would not answer as an economical substitute for quinine. It was therefore given to both European and negro patients who were suffering under the milder forms of remittent and intermittent fevers, and free from any local congestions, in the ordinary doses in which the sulphate of quinine was used. The results of the trial were, however, of such an unsatisfactory character, from the pain and cerebral congestion induced, that the medicine had to be discontinued. It was subsequently combined with calomel and morphia, but without any sensible diminution of the cerebral disturbance. When conjoined with the latter, delirium sometimes sets in, which was only

relieved by the application of blisters to the neck. With these drawbacks, therefore, cinchonine can never be resorted to as an efficient substitute for quinine in the treatment of tropical diseases."

6. *Assimilation of Lactate of Iron, and its Superiority over the other Chalybeates in reference to Digestion.* By A. CORDIER, M. D.—In order to appreciate the different preparations of iron, their action on the gastric juice has of late been the subject of frequent consideration, and rightly so, as it was to be determined whether the gastric juice, by dissolving the chalybeates or combining with them, would not be found wanting in its proper place and time, the act of digestion. Meanwhile, we have, like the majority of the profession, continued to prescribe the lactate of iron, as the safest preparation in point of digestion.

Indeed, since 1839, when MM. Gelis and Conté presented their first paper to the Imperial Academy of Medicine, the lactate of iron has continually risen in the favour of the profession, and as clinical observation has more than sufficiently proved its eminent value, we feel much satisfaction in supporting this opinion by some new physiological facts and experiments.

That the lactate of iron is the only chalybeate which can be prepared in the human body is easily proved, by digesting for twelve hours at a temperature of 104° some iron filings with distilled water and calf's rennet. Hydrogen is disengaged and lactate of iron formed, because lactic acid is contained in the gastric juice, and in fact is that acid, which imparts to the same its acidity. This has been proved to evidence by MM. Claude Bernard, Barreswill, Chevreul, Leuret, Lassaigne, and others.

Besides, M. Bernard has shown that the lactate of iron can be injected into the veins in large quantity without producing any accidents—an experiment speaking highly in favour of MM. Gelis and Conté's preparation. (*Archives de Médecine*, vol. xvi. page 87.)

The lactate of iron combines itself readily with the albuminous fluids, and loses the property of being precipitated. (Mitscherlich, Bernard.) Those combinations are readily assimilated without fatiguing the stomach. Unlike other chalybeates, the lactate of iron, far from impeding digestion and weakening the appetite, rather strengthens them, as it has also been stated by M. Bouillaud in his report on the lactate of iron to the Imperial Academy of Medicine. MM. Fouquier and Hardy, in a note annexed to this report, say: "We have several times prescribed the pastils of lactate of iron in cases of chlorosis with amenorrhœa, and after three or four days there was always such an increase of appetite that the patients complained of the insufficiency of their diet," &c. &c. Experience has now sufficiently proved not only the excellence of MM. Gelis and Conté's pastils in all cases where ferruginous preparations are required, but also their superiority over other preparations, where a weak or diseased stomach has to be taken into consideration. The reason of this is partly intelligible from the above remarks; but there are other proofs which we will presently consider.

In experimenting on the digestibility of medicines, M. Quevenne has found that a dose of thirty grains of reduced iron, or of the sesquioxide, even when taken at meals, produces diarrhœa and vomiting, while the lactate administered eight times, at a dose of fifteen to thirty grains, produces no inconvenience; thirty grains only appeared to affect the animals experimented upon. This difference appears to be due to the stomach having in the first case to dissolve and transform into lactates the above-named preparations of iron, while in the latter case it receives the lactate already formed. If the stomach of healthy animals is differently affected, how much more will this be in the case of a convalescent or a chlorotic patient?

Recent experiments have given new support to the view which we hold of the preference to be given to the lactate over other less soluble preparations. M. Felix Boudet undertook a series of experiments to ascertain whether the salts of iron which are precipitated on contact with the gastric juice require for their absorption any considerable quantity of this valuable and important liquid. (Report on the Therapeutic Use of Pyrophosphate of Iron, read before the Imperial Academy of Medicine, July 13, 1858, &c. &c.) He says: "My experiments were made with the assistance of MM. Roubiquet, Corvisart, and